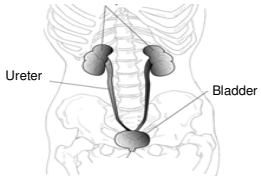
NAACCR Hospital Registry Webinar Series

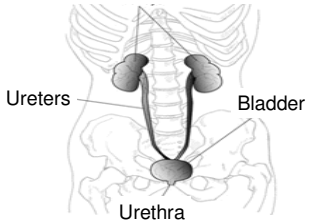
Abstracting Urinary System Incidence and Treatment Data



NAACCR

Urinary System

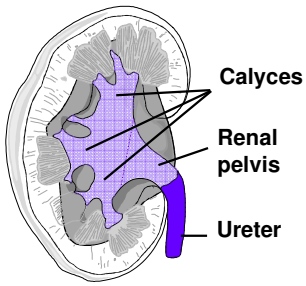
- Renal Pelvis and Ureters
- Bladder

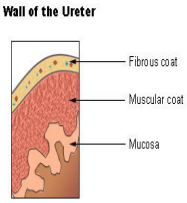


Urinary Tract

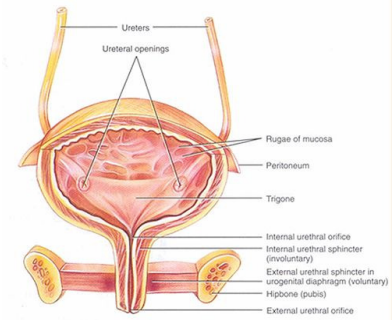
- Old Definitions
  - Upper urinary tract
    - Kidney, renal pelvis and ureter
  - Lower urinary tract
    - Bladder, sphincter, urethra
- New Definition (for MPH Rules)
  - Kidney
    - Glandular Tissue
  - Urinary Tract
    - Structures lined by urothelium
      - Renal Pelvis
      - Ureter
      - Bladder
      - Urethra

Renal Pelvis and Ureter



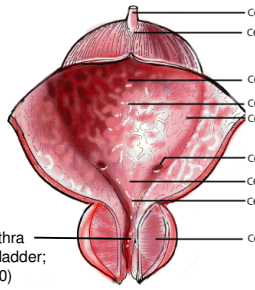


Urinary Bladder



Source: www.jyi.org/volumes/volume6/issue7/images/shobab_bladder1.jpg.
Courtesy of Gerard J. Tortora (1999) Principles of Human Anatomy (eight edition)
John Wiley & Sons Inc., New York

Bladder Anatomy ICD O 3 Codes

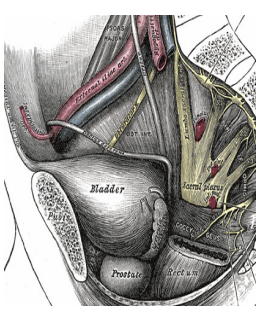


C67.7 Urachus
C67.1 Dome
C67.4 Posterior wall
C67.2 Lateral wall
C67.3 Anterior wall
C67.6 Ureteric orifice
C67.0 Trigone
C67.5 Bladder neck
C61.9 Prostate (not part of bladder)

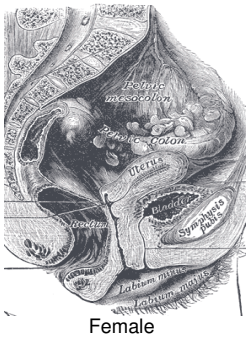
Prostatic urethra (not part of bladder; code to C68.0)

Source: UICC *TNM-interactive*, Wiley-Liss, 1998

Sagittal Cross Section of Pelvic Cavity



Male



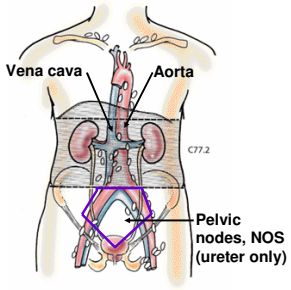
Female

http://en.wikipedia.org/wiki/Pelvic_cavity

Regional Lymph Nodes Renal Pelvis, Ureter

Renal Pelvis
Renal hilar
Aortic (pre-, peri-, retro-)
Paracaval
Interaortocaval
Retroperitoneal, NOS

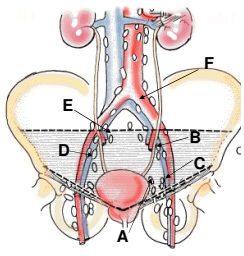
Ureter
Renal hilar
Aortic (pre-, peri-, retro-)
Paracaval
Interaortocaval
Iliac (common, internal, external)
Periureteral
Pelvic, NOS (see bladder)



Regional Lymph Nodes for Bladder

Bladder
Perivesical (A)
Iliac, internal (hypogastric) (B)
Obturator (C)
Iliac, external (D)
Sacral (E), presacral
Pelvic, NOS (all nodes within shadowed area)

Distant Lymph Nodes
Iliac, common (F)



Common Metastatic Sites

- Renal Pelvis and Ureter
  - Lung
  - Bone
  - Liver
- Bladder
  - Lymph Nodes
  - Lung
  - Bone
  - Liver

Equivalent Terms

- Urothelial (epithelium) = transitional (epithelium)
- Flat transitional cell = flat urothelial = in situ transitional cell = in situ urothelial
- Intramucosal = in situ
- Multicentric = multifocal
  - Multicentric synchronous tumors occur in about 70% of patients
- Tumor = mass = lesion = neoplasm *for purposes of MPH rules ONLY*

Definitions

Urinary Tract
- Structures lined by transitional epithelium (urothelium)
- Renal pelvis, ureter, bladder, urethra, prostatic urethra in males
- Tumor cells may shed and implant in structures lower in the tract causing multifocal tumors

Transitional epithelium
- Preferred term is now urothelium
- Expandable (stretchable) epithelium with layered appearance

Definitions

Field effect
- Generalized deterioration of urothelium throughout urinary tract

Implantation
- Malignant cells washed along in urine

Definitions

Intraluminal
- spread along the inner portion (lumen) of a tubular or hollow structure to a contiguous site
- Example: bladder cancer with in situ intraluminal spread to ureter

Non-invasive tumor
- confined to epithelium (intraepithelial)
- no penetration of basement membrane
- referred to as non-invasive if papillary, in situ if flat

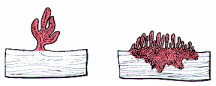
Intramucosal
- within the mucosal surface

Invasive tumor
- penetration below the basement membrane

Definitions

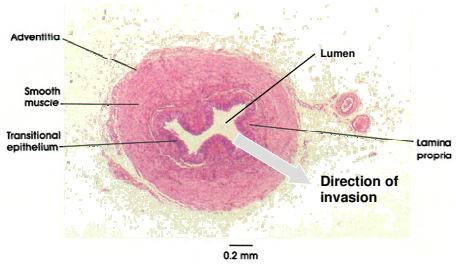
Papillary vs. Flat Carcinoma
- Gross descriptions of tumor architecture or structure; not specific histologies
- Both apply to transitional cell/urothelial carcinoma

Papillary tumor
- Warty growth projecting into lumen of organ
- Attached to wall by a stalk



Flat tumor
- Non-papillary tumor that lies flat against bladder tissue
- Worse prognosis than papillary tumor
- Also called carcinoma in situ

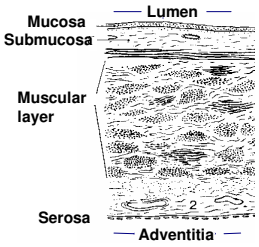
"Most Invasive"–Renal Pelvis, Ureter



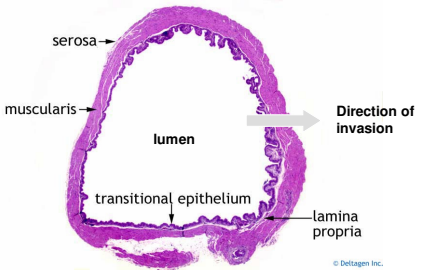
Source: www.anatomyatlases.org/MicroscopicAnatomy/Images/Plate241.jpg

"Most Invasive" – Bladder Wall
Least to Greatest Extension

- **Mucosa**
  - Surface epithelium (urothelium, transitional mucosa)
- **Submucosa (stroma)**
  - Lamina propria (basement membrane)
  - Muscularis mucosae—may not be present or mentioned
- **Muscularis propria** (smooth muscle, detrusor muscle)
  - Circular layer
  - Longitudinal layer
- **Serosa or perivesical fat/adventitia**



"Most Invasive"–Bladder Wall



Source: Deltagen.com Histology Atlas

Urinary Tract Histologies

- Urothelial carcinoma (transitional cell carcinoma)
  - 90% of all urinary tract cancers
  - Papillary urothelial carcinoma (papillary transitional cell carcinoma)
- Squamous cell carcinoma
  - 10% of renal pelvis tumors, 5% of bladder tumors
- Adenocarcinoma
  - Very rare in renal pelvis, ureters
  - < 1% of urinary tract tumors
  - Most likely a primary in kidney parenchyma with extension into renal pelvis or ureter

Urothelial/Transitional Cell Tumors

	Code as ICD-O-3 morphology
• Urothelial carcinoma	8120
▪ Transitional cell carcinoma, NOS	
▪ flat (non-papillary) transitional cell	
▪ with squamous differentiation	
▪ with glandular differentiation	
▪ with trophoblastic differentiation	
▪ nested transitional cell	
▪ microcystic transitional cell	
• Papillary carcinoma	8130
▪ Papillary transitional cell carcinoma	
▪ Papillary and transitional cell	

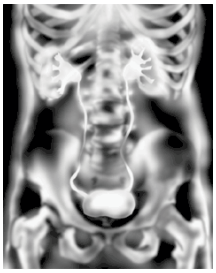
Urothelial/Transitional Cell Tumors

	Code as ICD-O-3 morphology
• Micropapillary	8131
• Lymphoepithelioma-like	8082
▪ Plasmacytoid	
• Sarcomatoid	8122
• Giant cell	8031
• Undifferentiated	8020

Diagnostic Procedures

Intravenous Pyelogram (IVP)

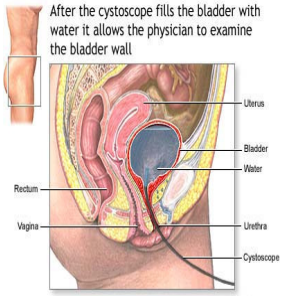
- **Contrast agent (dye) is injected into a vein to outline the kidneys, ureters and bladder on an X-ray**



http://www.urologyhealth.org/adult/index.cfm?cat=05&topic=278

Diagnostic Procedures

- **Cystoscopy**
- **Ureteroscope**



http://www.nlm.nih.gov/medlineplus/ency/imagepages/1089.htm

Quiz